1116-60-528 **Ami Radunskaya*** (aer04747@pomona.edu), Math Dept., Pomona College, 610 N. College Ave., Claremont, CA 91711. *Chaos and Noise: the implications of stochasticity in growth laws.*

Many biological and physiological processes involve self-regulating mechanisms that prevent too much growth while ensuring against extinction. The rate of growth is often random ("noisy"), possibly affected by fluctuations in the environment. Some questions that we'd like to answer are: what happens to the system in the long term? Does the system have a well-defined average? How does this long-term average compare to the long-term behavior of the deterministic (not random) system? What can we say about the distribution of "survival times", i.e. the distribution of times until the system reaches a particular value?

In this talk we answer these questions for a family of maps on the unit interval that model self-limiting growth. We then look at more complicated systems and make several conjectures. (Received September 05, 2015)